

Metal Heat Treating: 2002

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2002 Economic Census

Manufacturing

Industry Series



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Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
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-- Not applicable for this report.

Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year ¹	Com- panies ²	All estab- lish- ments ³	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
			Number ⁴	Payroll (\$1,000)	Number ⁴	Hours (1,000)	Wages (\$1,000)				
332811, Metal heat treating		787	20 112	786 443	14 880	30 948	519 885	2 098 923	1 320 983	3 364 685	'259 871
2002..	651	N	21 749	804 691	16 419	33 269	532 531	1 935 800	1 916 778	3 926 745	356 964
2001..	N	N	23 094	866 071	17 421	34 973	573 435	2 272 568	1 914 283	4 054 137	258 942
2000..	N	N	23 368	847 732	17 959	36 936	567 520	2 095 213	1 499 365	3 587 353	198 607
1999..	N	N	23 482	872 238	18 568	38 366	587 024	2 126 774	1 425 012	3 558 439	345 468
1998..	N	N	22 299	789 233	17 171	35 106	519 823	2 020 611	1 438 026	3 442 317	292 270
1997..	662	800									

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments ²		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
332811, Metal heat treating												
United States	—	787	311	20 112	786 443	14 880	30 948	519 885	2 098 923	1 320 983	3 364 685	'259 871
Arizona	1	10	1	154	5 250	120	231	3 607	13 255	2 894	16 189	'349
California	1	77	36	1 816	67 093	1 391	2 970	44 427	148 273	34 783	183 331	'6 273
Connecticut	—	31	10	551	21 281	413	860	14 275	44 923	17 097	62 746	'2 081
Illinois	—	45	17	1 257	46 682	968	2 054	33 255	159 782	41 121	195 722	'7 433
Indiana	—	44	20	1 663	75 276	1 207	2 476	50 601	284 487	157 327	438 665	'14 707
Iowa	—	7	4	144	4 460	112	216	3 142	10 905	2 457	11 974	'347
Louisiana	—	7	2	329	14 069	240	521	9 312	30 886	5 274	36 160	'5 673
Massachusetts	1	18	4	227	9 217	176	405	6 221	19 211	5 888	25 147	'814
Michigan	1	116	61	3 360	131 665	2 433	5 072	81 225	313 031	114 468	428 703	'27 289
Minnesota	—	13	6	318	12 624	260	542	9 267	26 195	4 990	31 135	'6 283
New Jersey	1	12	6	400	15 312	275	600	9 709	35 669	19 645	55 317	'777
New York	—	26	10	657	26 892	385	815	15 426	70 375	55 878	129 929	'1 460
North Carolina	—	16	7	298	9 707	215	452	6 158	22 668	5 018	27 649	'2 007
Ohio	—	99	42	2 638	102 159	2 051	4 277	71 519	261 627	153 159	411 667	'14 058
Oregon	3	12	2	150	5 648	119	240	3 827	15 364	3 644	19 016	'1 562
Pennsylvania	1	44	12	750	29 806	513	1 040	16 983	76 081	24 941	103 352	'6 144
South Carolina	1	9	1	146	4 626	115	222	3 270	11 731	2 319	14 056	'525
Texas	1	49	21	1 747	67 055	1 292	2 553	45 257	133 046	85 937	220 174	'9 411
Washington	1	8	3	104	3 604	88	145	2 632	7 786	1 741	9 553	'465
Wisconsin	1	38	15	813	32 327	640	1 302	23 348	80 612	15 288	95 973	'4 498

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
332811, Metal heat treating	
Companies ¹	number.. 651
All establishments ²	number.. 787
Establishments with 1 to 19 employees	number.. 476
Establishments with 20 to 99 employees	number.. 285
Establishments with 100 employees or more	number.. 26
All employees ³	number.. 20 112
Total compensation	\$1,000.. 966 533
Annual payroll	\$1,000.. 786 443
Total fringe benefits	\$1,000.. 180 090
Production workers, average for year	number.. 14 880
Production workers on March 12	number.. 14 857
Production workers on May 12	number.. 14 834
Production workers on August 12	number.. 14 931
Production workers on November 12	number.. 14 836
Production worker hours	1,000.. 30 948
Production worker wages	\$1,000.. 519 885
Total cost of materials	\$1,000.. 1 320 983
Materials, parts, containers, packaging, etc., used	\$1,000.. 1 071 607
Resales	\$1,000.. 17 817
Purchased fuels	\$1,000.. 95 015
Purchased electricity	\$1,000.. 102 172
Contract work	\$1,000.. 34 372
Quantity of electricity purchased for heat and power	1,000 kWh.. 1 787 404
Quantity of electricity generated less sold for heat and power	1,000 kWh.. 5 354
Total value of shipments	\$1,000.. 3 364 685
Primary products value of shipments	\$1,000.. 3 161 392
Secondary products value of shipments	\$1,000.. 61 512
Total miscellaneous receipts	\$1,000.. 141 781
Value of resales	\$1,000.. 24 807
Contract receipts	\$1,000.. 86 960
Other miscellaneous receipts	\$1,000.. 30 014
Primary products specialization ratio	percent.. 98
Value of primary products shipments made in all industries	\$1,000.. 3 379 625
Value of primary products shipments made in this industry	\$1,000.. 3 161 392
Value of primary products shipments made in other industries	\$1,000.. 218 233
Coverage ratio	percent.. 94
Value added	\$1,000.. 2 098 923
Total inventories, beginning of year	\$1,000.. 406 623
Finished goods inventories	\$1,000.. 97 910
Work-in-process inventories	\$1,000.. 92 786
Materials and supplies inventories	\$1,000.. 215 927
Total inventories, end of year	\$1,000.. 485 883
Finished goods inventories	\$1,000.. 110 400
Work-in-process inventories	\$1,000.. 135 517
Materials and supplies inventories	\$1,000.. 239 966
Gross value of depreciable assets (acquisition costs) at beginning of year	\$1,000.. '2 363 903
Total capital expenditures (new and used)	\$1,000.. '259 871
Buildings and other structures (new and used)	\$1,000.. '18 345
Machinery and equipment (new and used)	\$1,000.. '241 526
Automobiles, trucks, etc., for highway use	\$1,000.. '8 905
Computers and peripheral data processing equipment	\$1,000.. '11 844
All other expenditures for machinery and equipment	\$1,000.. '220 777
Total retirements	\$1,000.. '219 973
Gross value of depreciable assets at end of year	\$1,000.. '2 403 801
Depreciation charges during year	\$1,000.. '153 610
Total rental payments	\$1,000.. 61 053
Buildings and other structures	\$1,000.. 36 254
Machinery and equipment	\$1,000.. 24 799
Total other expenses ⁴	\$1,000.. 324 280
Response coverage ratio ⁵	percent.. 84
Repair and maintenance services of buildings and/or machinery ⁴	\$1,000.. 53 424
Communications services ⁴	\$1,000.. 7 336
Legal services ⁴	\$1,000.. 8 926
Accounting, auditing, and bookkeeping services ⁴	\$1,000.. 13 798
Advertising and promotional services ⁴	\$1,000.. 5 962
Expensed computer hardware and supplies and purchased computer services ⁴	\$1,000.. 4 130
Refuse removal (including hazardous waste) services ⁴	\$1,000.. 5 564
Management consulting and administrative services ⁴	\$1,000.. 9 587
Taxes and license fees ⁴	\$1,000.. 19 891
All other expenses ⁴	\$1,000.. 195 662

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on 2002 Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E ¹	All establishments ²	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
332811, Metal heat treating											
All establishments	—	787	20 112	786 443	14 880	30 948	519 885	2 098 923	1 320 983	3 364 685	'259 871
Establishments with—											
1 to 4 employees	9	160	e	D	D	D	D	D	D	D	'717
5 to 9 employees	5	128	887	35 349	653	1 330	22 766	78 911	20 147	99 098	'3 288
10 to 19 employees	2	188	2 713	99 519	1 987	4 060	64 783	248 651	60 044	308 688	D
20 to 49 employees	—	220	7 021	258 730	5 241	10 878	167 432	629 155	180 188	806 263	'40 794
50 to 99 employees	—	65	4 317	162 707	3 365	6 915	114 039	430 310	129 544	555 994	'29 225
100 to 249 employees	—	22	3 210	131 041	2 281	4 756	85 699	302 472	284 267	593 488	'18 623
250 to 499 employees	—	3	948	47 538	560	1 206	28 966	203 620	140 013	341 983	15 640
500 to 999 employees	—	1	f	D	D	D	D	D	D	D	D
1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—
2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—
Administrative records ⁴	9	206	776	31 842	611	1 293	21 301	69 197	17 558	86 751	'1 350

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments ¹	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ²	Payroll (\$1,000)	Number ²	Hours (1,000)	Wages (\$1,000)				
332811	Metal heat treating.....	787	20 112	786 443	14 880	30 948	519 885	2 098 923	1 320 983	3 364 685	'259 871
3328110	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.)	787	20 112	786 443	14 880	30 948	519 885	2 098 923	1 320 983	3 364 685	'259 871

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
332811	Metal heat treating .....2002..	N	X	X	3 379 625
	.....1997..	N	X	X	3 394 828
3328110	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.) .....2002..	N	X	X	3 379 625
	.....1997..	N	X	X	3 394 828
33281101	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.) .....2002..	N	X	X	3 271 585
	.....1997..	N	X	X	3 297 084
3328110100	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.) .....2002..	520	X	X	3 271 585
	.....1997..	529	X	X	3 297 084
3328110Y	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.), nsk, total .....2002..	N	X	X	108 040
	.....1997..	N	X	X	97 744
3328110YWW	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.), nsk, for nonadministrative-record establishments .....2002..	N	X	X	22 135
	.....1997..	N	X	X	17 686
3328110YWY	Heat treating of metal for the trade (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.), nsk, for administrative-record establishments .....2002..	N	X	X	85 905
	.....1997..	N	X	X	80 058

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. **Product Class Shipments for Selected States: 2002 and 1997**

[Not applicable for this report.]

Table 7. **Materials Consumed by Kind: 2002 and 1997**

[Not applicable for this report]